

FIG. 1



Front and Back Side Oxide Patterning

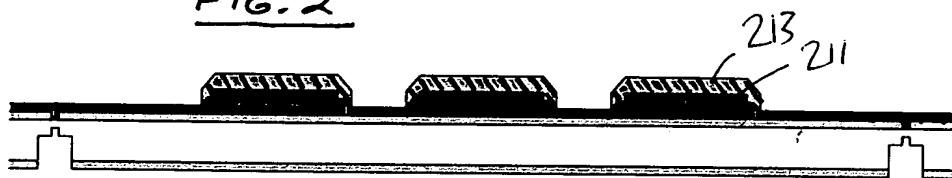
Back Side DRIE Etching

1st Cr/Au Deposition and Patterning (100Å/3000Å)

1st Parylene Deposition (1µm)

FIGURE 1

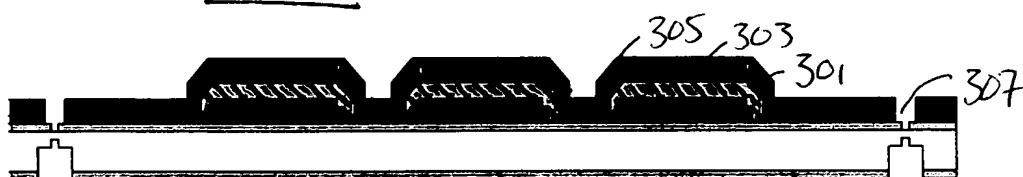
FIG. 2



Sputtered Si Deposition and Patterning (3000Å)

1st Sacrificial Photoresist Patterning (4µm)

FIG. 3



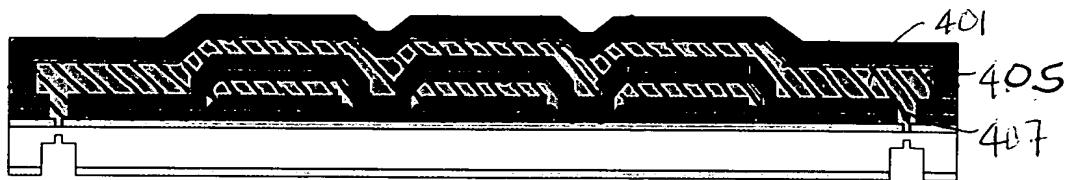
2nd Parylene Deposition and Patterning (1µm)

2nd Cr/Au Deposition and Patterning (100Å/1500Å)

3rd Parylene Deposition and Patterning (1µm)

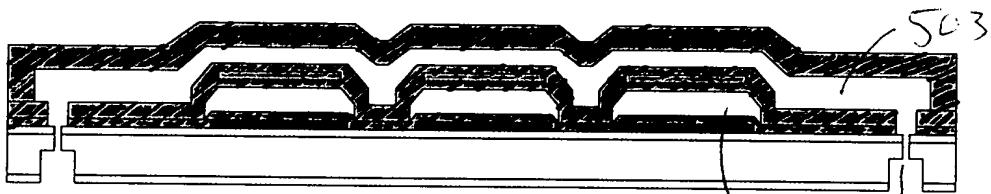
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FIG. 4



2nd Sacrificial Photoresist Patterning (5 $\mu$ m)  
4th Parylene Deposition and Patterning (4 $\mu$ m)

FIG. 5



DRIE Open Backside Inlet and Outlet      503  
Acetone Release Sacrificial Photoresist      507  
BrF3 Release Sacrificial Si      501



1st Cr/Au



2nd Cr/Au



Si



Photoresist



Parylene

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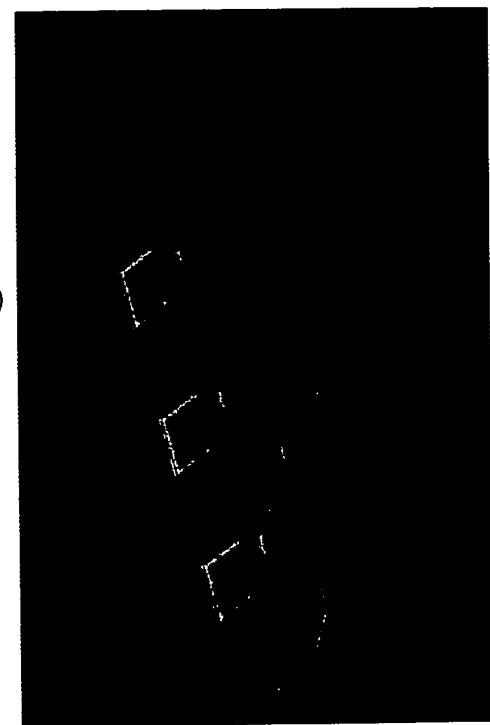
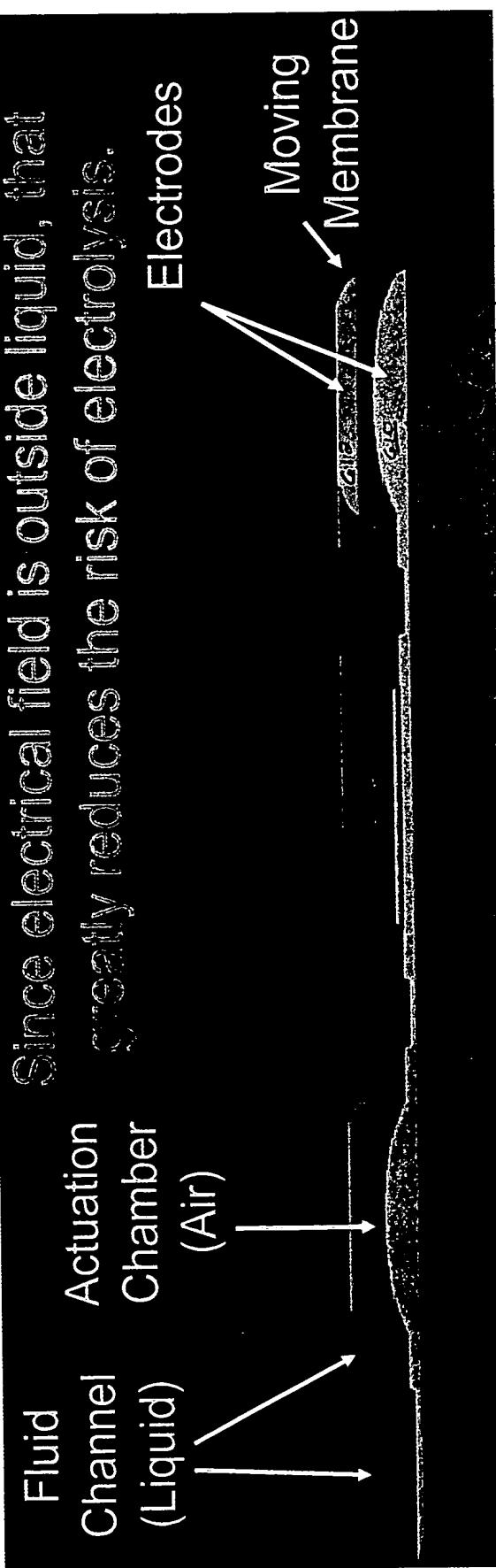


FIG. 6A

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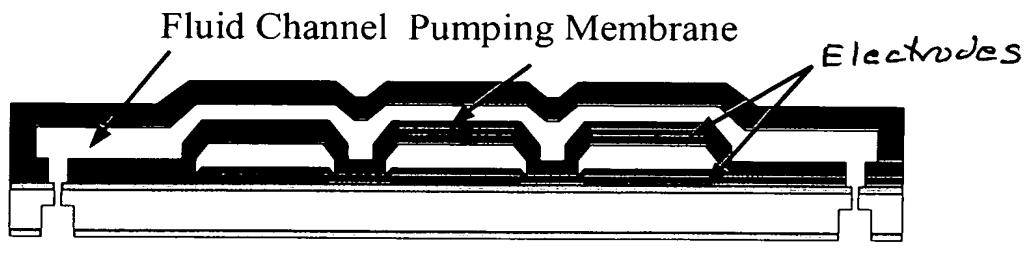
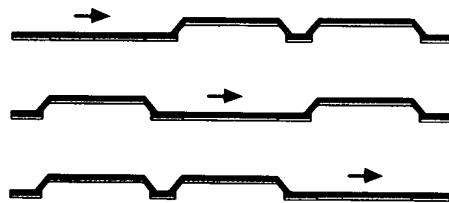


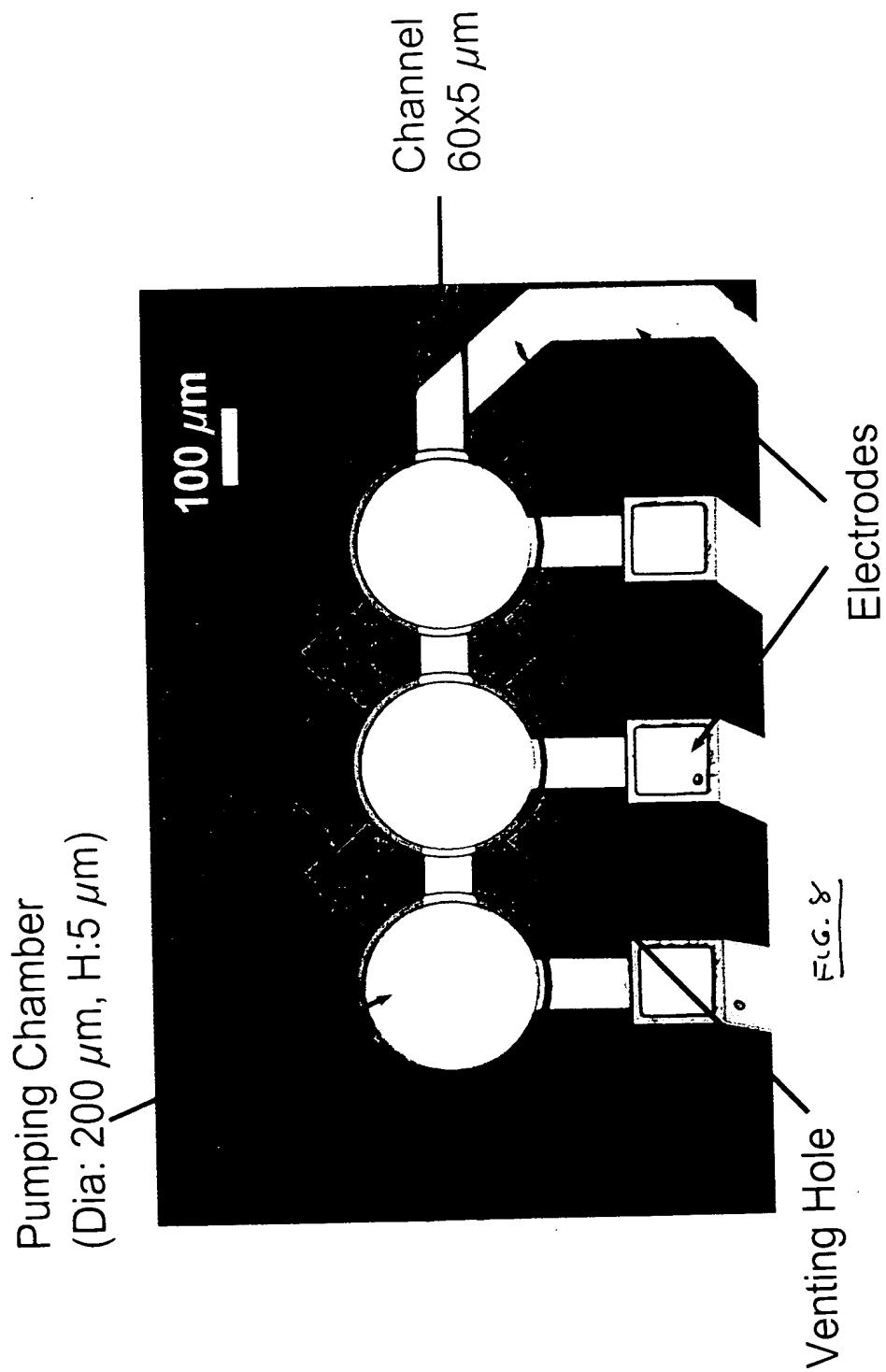
FIG. 7A

FIG. 7B



3 Phase Actuation

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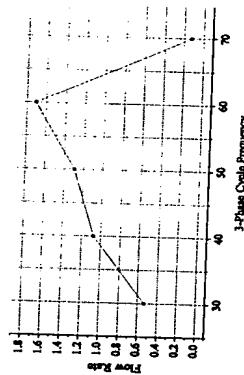


FIGURE 10

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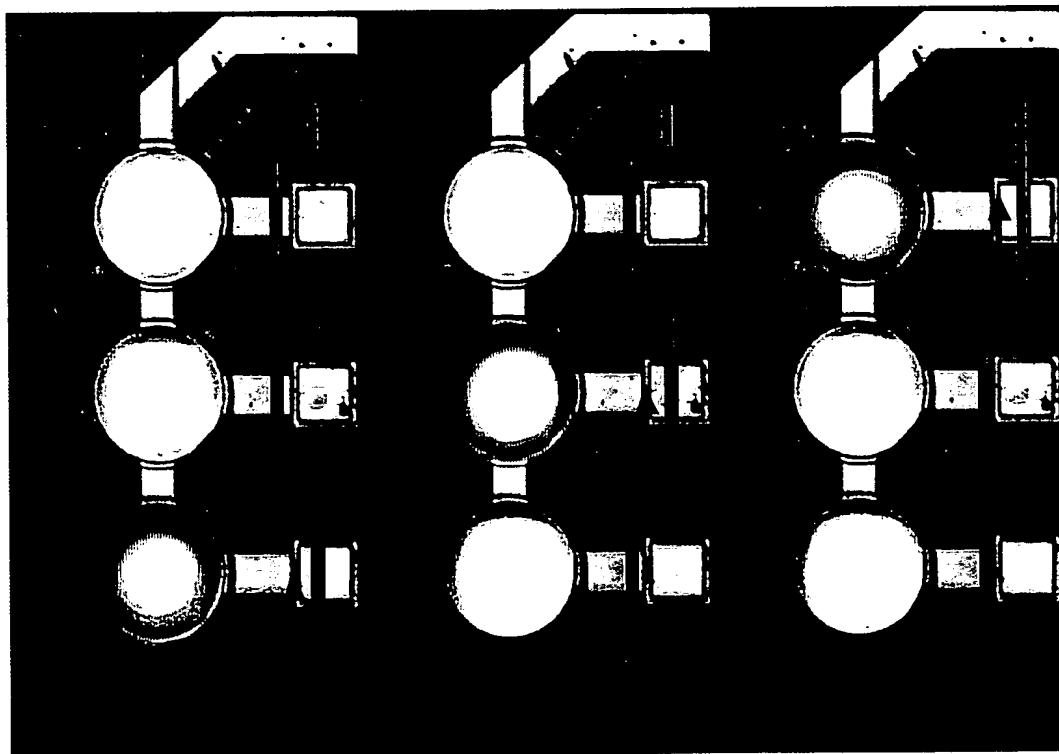
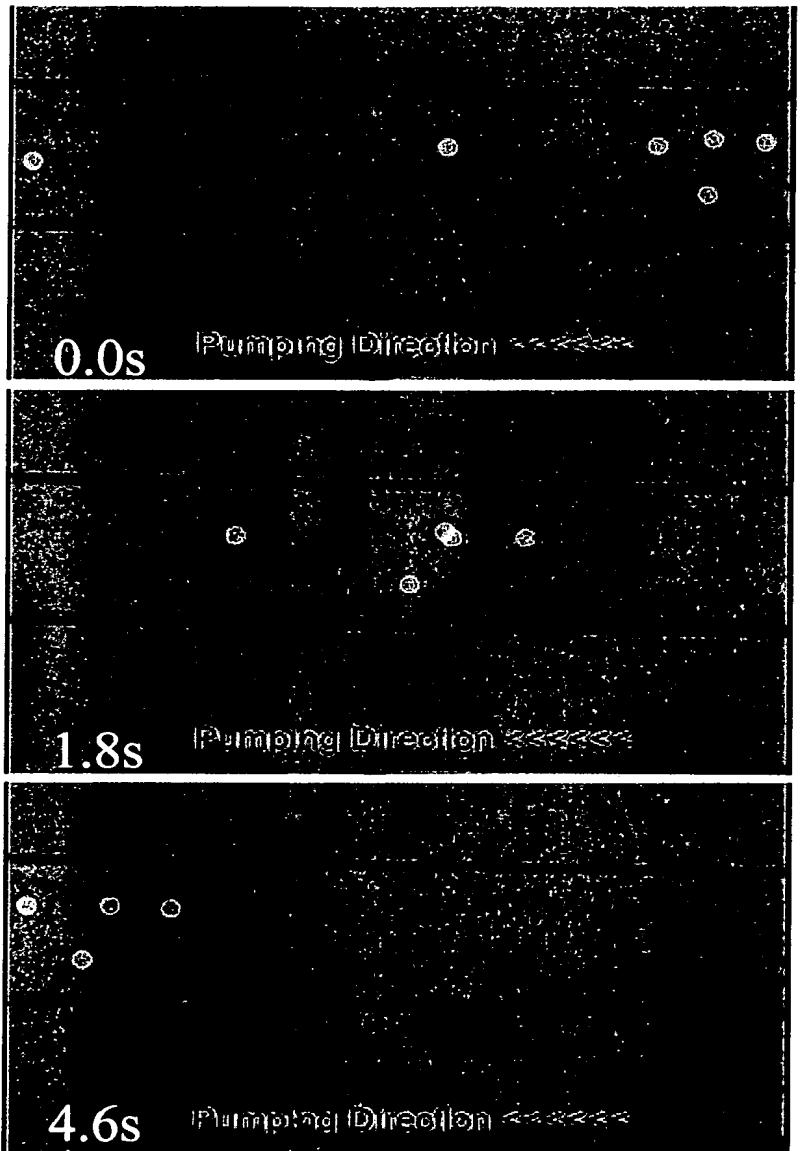


FIG. 9



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